



50th Contracting Squadron

Lease vs. Buy



50th Contracting Squadron
Schriever Air Force Base



Why Train on Lease vs. Buy?

- **Assists in determining best value**
- **Analysis required per Office of Management and Budget (OMB)
Circular A-94, DFARS 207.401, AFI 65-501**



Overview

- **Objectives**
 - **Understand lease vs. buy scenario**
 - **Know how analysis can help with lease or purchase decisions**
 - **Recognize when lease vs. buy analysis is required**
 - **Understand analysis and results**
- **High interest items**
- **Conclusion**
- **Quiz**



Lease vs. Buy Scenario

- **1st objective: Understand lease vs. buy scenario**
 - **Lease - the period of time during which a contract conveying property to a person is in effect**
 - **Buy - the acquisition of something by payment**
 - **Example: lease or buy an asset**
 - **Option #1: Lease asset for \$10k/year for three years**
 - **Option #2: Buy asset for \$29K, 3 year useful life, salvage value of \$2k**
 - **What is the best value?**



How lease vs. buy helps

- **Helps make rational choices among alternatives**
- **Aides in judgment**
- **Reduces incidents of serious omissions and/or the introduction of personal bias**



When to use Lease vs. Buy

- **2nd objective: Recognize when lease vs. buy analysis is required**
 - **OMB Circular A-94 requires the following be justified:**
 - **The capital asset or a group of assets whose fair market total value exceeds \$1 million**
 - **The capital asset is:**
 - Leased to the government for three or more years
 - Built for the express purpose of being leased to the government
 - Leased to the government and clearly has no commercial use



When to use Lease vs. Buy

- **2nd objective: Recognize when lease vs. buy analysis is required**
 - **DFARS 207.401 requires justification when:**
 - **Equipment will be leased for more than 60 days**
 - **AFI 65-501 requires analysis when:**
 - **New project or program > \$1 million**
 - **Annual recurring costs over \$250,000 for at least four years**



When to use Lease vs. Buy

- **2nd objective: Recognize when lease vs. buy analysis is required**
 - **Base or Wing level financial offices are the OPR for preparing the analysis (requiring activity assists)**
 - **An analysis is not required if:**
 - **Cost of the analysis clearly outweighs the benefit**
 - **Legislation specifically exempts the project**



Lease vs. Buy Analysis

- **3rd objective: Become familiar with analysis**
 - **Time value of money - money has time value. It has more value today than in the future**
 - **Net present value - the present (discounted) value of future cash inflows minus the present value of the investment and any associated future cash outflows.**
 - **Discount rate - the interest rate used in discounting future cash flows**



Lease vs. Buy Analysis

- **Five Step Process in Net Present Analysis**
 - **Step 1: Select the discount rate**
 - **Nominal treasury rates or real treasury rate from OMB A-94, Appendix C**
 - **Nominal is most commonly used**
 - **http://www.whitehouse.gov/omb/circulars/a094/a94_appx-c.html**



Lease vs. Buy Analysis

- **Step 2: Identify the cost/benefits to be considered in the analysis**
 - **Many considerations (costs, payment timing, performance period, salvage value)**
 - **Be consistent with cost/benefits in evaluating alternatives**
 - **Analysis should not consider costs which will be identical for all alternatives**



Lease vs. Buy Analysis

- **Step 3: Establish the timing of the cost/benefits**
 - **END OF YEAR PAYMENT** - single payment made at the end of the year
 - **Discount Factor = $1 / (1+i)^t$**
 - i = discount rate
 - t = number of years until the payment is due
 - **MID-YEAR OR REPETITIVE PAYMENTS** - single payment made at mid-year or payments made at regular intervals
 - **Discount Factor = $1 / (1 + i)^{(t-5)}$**
 - i = discount rate
 - t = number of years until the payment is due



Lease vs. Buy Analysis

- **Step 4: Calculate net present value of each alternative**
 - **END OF YEAR PAYMENT - single payment made at the end of the year**
 - Present Value (PV) = Discount Factor (DF) x Cash Flow (CF)
 - **Discount Factor = $1 / (1+i)^t$**
 - i = discount rate
 - t = number of years until the payment is due



Lease vs. Buy Analysis

- **Example: END OF YEAR PAYMENT - Determine the PV of a payment of \$1,000 due at the end of one year using the nominal discount rate of 5.6%**
- **Discount Factor = $1 / (1 + .056)^1 = .9470$**
- **Present Value (PV) = $.9470 (\$1,000)$
= (\$947) rounded**



Lease vs. Buy Analysis

- **END OF YEAR PAYMENTS (multiple years) - single payment made at end of year for multiple years**
 - NPV = End of Year Sum Factor (SF) x Cash Flow (CF)
- **Discount Factor = $1/(1 + i)^t$**
 - i = discount rate
 - t = number of years until the payment is due



Lease vs. Buy Analysis

- **Example: END OF YEAR PAYMENTS**
(multiple years) - Determine the present value of a series of three payments of \$1,000 each due at the end of each of the next three years w/ a 5.6% discount rate

Year	Payment	Formula	Calculation	Discount Factor	Present Value
1	(\$1,000)	$1/(1.056)^1$	1/1.056	.9470	(\$947)
2	(\$1,000)	$1/(1.056)^2$	1/1.1151	.8968	(\$897)
3	(\$1,000)	$1/(1.056)^3$	1/1.1776	.8492	(\$849)
- NPV = End of Year Sum Factor (SF) x Cash Flow (CF)			TOTAL	2.6930	(\$2,693)

- NPV = 2.6930 (\$1,000) = (\$2,693)



Lease vs. Buy Analysis

- **MID-YEAR PAYMENT/REPETITIVE** - single payment made at mid-year or payments made at regular intervals
 - $NPV = \text{Mid Year Discount Factor (MYDF)}(CF)$
- **Discount Factor** = $1/(1 + i)^{(t-5)}$
 - i = discount rate
 - t = number of years until the payment is due



Lease vs. Buy Analysis

- **Example: MID-YEAR/REPETITIVE PAYMENT** - Determine the present value of a series of 12 monthly payments for one year at \$1,000 each and a 5.6% discount rate
- **Discount Factor** = $1/(1 + .056)^{(1-.5)} = 1/1.056^{.5} = .9731$
- **NPV = Mid Year Discount Factor (MYDF) (CF) = .9731 (\$12,000) = \$11,677**



Lease vs. Buy Analysis

- **Step five: Select the offer with the best net present value**
 - **Select the alternative with the most value**
- **Example: lease or buy an asset**
 - **Option #1: Lease asset for \$10k/year for three years**
 - **Option #2: Buy asset for \$29K, 3 year useful life, salvage value of \$2k**
 - **What is the best value?**



Lease vs. Buy Analysis

- **Example: lease or buy an asset**
 - **Option #1: Lease asset for \$10k/year for three years, 5.4% discount rate**
 - **Option #2: Buy asset for \$29K, 3 year useful life, salvage value of \$2k**
 - **What is the best value?**
 - **Option #1:**

t	Cash Flow	DF	PV
0	(\$10,000)	1.000	(\$10,000)
1	(\$10,000)	.9470	(\$9,470)
2	(\$10,000)	.8968	(\$8,968)
		NPV =	\$(28,438)



Lease vs. Buy Analysis

- **Example: lease or buy an asset**
 - **Option #1: Lease asset for \$10k/year for three years, 5.4% discount rate**
 - **Option #2: Buy asset for \$29K, 3 year useful life, salvage value of \$2k, 5.4% discount rate**
 - **What is the best value?**
 - **Option #2:**

t	Cash Flow	DF	PV
0	(\$29,000)	1.000	(\$29,000)
3	\$2,000	.8492	\$1,698
		NPV =	\$(27,302)

- **Select the offer with the best net present value - (\$28, 438) Offer A or (\$27,302) Offer B**



Real World Example

- **Dec 2003 Schriever AFB Rescue Truck Analysis**
 - **Objective was to lease or buy a new rescue truck for the Schriever AFB Fire Department**

Alternative	NPV
Lease w/\$50k buyout	(\$239,681)
Lease w/ \$1 buyout	(\$237,730)
Purchase	(\$211,839)

- **Purchase of the vehicle was most economical**
- **Problems obtaining 3080 funds for purchase so final decision was to go with the lease**



High Interest Items

- **Within the last few years only a few lease vs. purchase analysis have been done**
- **Good news! Computer programs do most of the work**
- **For larger, more complex decisions this is outsourced**
- **Lease vs. Buy Analysis report goes under Tab 35 - Request for Audits/Pricing Reports; Most Probable Cost Estimate**



Conclusion

- **OMB A-94, DFARS 207.401, AFI 65-501 require lease vs. buy analysis be accomplished**
- **Base or wing level financial analysis offices are the OPR (requiring activity assists)**
- **Need to know when it is needed and what is involved more so than how to do the analysis**
 - **Report is automated**
 - **In some organizations, not frequently done**



For More Information...

- **50 CONS Web Site (Step 1: Need Identified)**
 - **Lease vs. Buy information not in Guidebook at this time**
- **OMB Circular A-94, Chapter 13**
- **DFARS 207.401**
- **FAR 7.4 Equipment Lease or Purchase**
- **Air Force forms and publications**
 - **<http://www.e-publishing.af.mil/>**
 - **AFI 65-501**
 - **AFMAN 65-506**
 - **DOD Pricing Reference Guide**



Quiz

Ten Questions

70% to Pass

Closed Notes

Good Luck